

Cape Lookout National Seashore Shackleford Banks Horses 2016 Annual Report

**National Park Service
Cape Lookout National Seashore
131 Charles Street
Harkers Island, NC 28531**

Site Location and Description

Cape Lookout National Seashore is located in the southern Outer Banks of North Carolina between Beaufort and Ocracoke Inlets. Here, the National Park Service (NPS) manages fifty-six miles of barrier islands. Shackleford Banks is the southernmost island in the park between Barden's Inlet to the east and Beaufort Inlet to the west. It lies south of Harkers Island. Shackleford Banks is approximately 9 miles long and ranges from less than one half mile wide to more than 1.5 miles wide where eastern marsh islands are included.

Management Directives

Federal legislation passed in 1998 as 16 U.S.C. §459g-4 (<https://www.gpo.gov>) and the subsequent 2005 Amendment by Congress 109-117;119-§2526 (<http://uscode.house.gov>) to the legislation protects the wild horses within Cape Lookout National Seashore and requires an annual report on the status of the herd . This report covers calendar year 2016.

The horses are cooperatively managed by the NPS and the Foundation for Shackleford Horses, Inc., (Foundation) since 1999, according to legislation (<https://www.gpo.gov>). The partners are working under a Memorandum of Understanding (MOU, 2007).

Management of the horses has been guided by four National Park Service horse Management Plans (1996), (1999), (amended 2005), (amended 2010). The most recent three include the Foundation as co-managers.

Horse Population

The population is managed with a legislated target range of 120 to 130 horses (<http://uscode.house.gov>). As of January 2, 2017, the official population on Shackleford Banks was 114. The number of horses in the herd has increased between 2013 and 2016. No roundups are planned in the foreseeable future.

Gender and Age Structure

As of January 2, 2017, there is a significantly larger number of females in the oldest age classes. All 11 horses 22 years of age and older are female. The oldest horse during 2016 was 33 years old. Contraception has been linked to increased longevity among treated females (Kirkpatrick, 2009). The average age of the horses living on Shackleford Banks as of January 2, 2017 is 10.9 years.

Mortality

Mortalities are recorded either when a body is found or when the horse is not sighted for many months. In this report, 114 horses are considered to have been alive on January 2, 2017. If at a later date a horse is determined to have died prior to this date, future raw data will reflect this.

In 2016 herd mortality was 6% with 7 deaths. This is consistent with the average mortality from 1997 through 2015 which was also 6%. In 2016 5 adult horses died at ages 14, 19, 20, 25, and 26. The 19 and 20 year olds were male and the others were female. Two foals died within a month of birth. Data from 1997 to 2016 shows that Shackleford Banks horses live, on average, for 9.5 years.

Births and Foal Mortality

Eight foals were born in 2016. Two died before they reached one month of age. The 25% foal mortality in 2016 is above the annual average of 19% calculated since 2000. Since 2009 when the last birth control was administered for population reasons, the birth rate has been gradually rising.

Genetics Data

Dung was collected from the foals of 2016 by standard collection protocol (Waits, 2009) to determine their genotypes. Analyses will be done according to protocol by the Laboratory for Ecological, Evolutionary and Conservation Genetics at the University of Idaho (Adams, 2016). The maternal and paternal genotypes are known from previous analyses, and, using them, foal paternity will be determined. The resulting lineage data will be used for decision making for management actions by the NPS and Foundation.

Contraception

Contraception has been used adaptively to manage the wild horse population beginning in 2000 (National Park Service, 1996, 1995, 2005, 2010). No mares have been contracepted for population control reasons since 2009.

Public Education and Partnerships

The Wild Horse Public Education Campaign (WHPEC) was begun in 2011. WHPEC involves Cape Lookout National Seashore, the Foundation for Shackleford Horses, and the nearby Rachel Carson Reserve National Estuarine Research Reserve. The aim of the campaign is to educate people about the horses with an emphasis on safety of the horses, NPS/Reserve visitors, and pets. The general message is to watch the horses without interacting with them or interrupting their natural behavior. Facebook and Twitter postings during 2016 were designed to keep the horse protection message fresh in the minds of social media followers.

Research

During 2016, Maggie Jones and Cassandra Nunez conducted a study in which preliminary data analysis suggests that differences in mare behavior, specifically harem changing behavior, and differences in the ecology of home ranges, effect the frequency of the stallion's fighting behaviors (Jones, 2016). Previous studies indicate that contracepted mares change groups more frequently than mares not treated with porcine zona pellucida.

Micah Fatka, directed by Cassandra Nunez, studied an effect that porcine zona pellucida (PZP) has on mare behavior on Shackleford Banks. She found that mares that had been treated were more

likely to initiate mare on mare fights than the untreated mares, however, the PZP history had no effect on which mare won the fight (Fatka, 2016).

Foundation for Shackleford Horses, Inc., Work

During the year the Foundation for Shackleford Horses, Inc., contributed well over 3250 volunteer hours performing diverse work related to the Shackleford Banks horses both on and off the island (FSH, 2016). Its Board of Directors is comprised of ten volunteers; additional volunteers contribute significantly.

Citations

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4. National Park Service, Cape Lookout National Seashore, Management Plan for the Feral Horse Herd on Shackleford Banks, 1996.
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9. Lisette Waits, "Scat Collection Protocol," January 10, 2009.
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